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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,316

11/01/2005

Rudolf Bierl

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02/19/2008

Martin A. Farber
Suite 473
866 United Nations Plaza
New York, NY 10017

EXAMINER

ROGERS, DAVID A

ART UNIT

PAPER NUMBER

2856

MAIL DATE

DELIVERY MODE

02/19/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/526,316	Applicant(s) BIERL ET AL.	
	Examiner DAVID A. ROGERS	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>04/25/06</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 U.S.C. § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent 3,896,670 to Converse, III *et al.* in view of German Patent Application Publication DE 19857329 to Wildgen *et al.* and United States Patent Application Publication 2002/0157448 to Hirai *et al.*

With regard to claim 10 Converse, III *et al.* teaches a device comprising a flow channel (reference item 50), a vacuum pump coupled to the device at one end, and an adjustable throttle formed of a venturi nozzle (reference item 16) and an adjustable control cone (reference item 53) located centrally to the widening section. The venturi has a conically widening section just aft of the narrowest portion. The adjustable control cone is shown as being a spike and is taught as being movable within the venturi in order to adjust the mass flow through the flow channel and to ensure critical flow through the narrowest part of the venturi (which would have to occur during operation of the pump). Converse, III *et al.* teaches that the control cone can be axially displaced using a computer-controlled motor (reference item 63), an encoder (reference item

65), and using a predetermined sequence in conjunction with a timer (reference item 78). The flow channel can hold various sensors; e.g., a pressure sensor (reference item 51) and a temperature sensor (reference item 52). In use the device of Converse, III *et al.* will allow the mass flow through flow channel will be based on the position of the cone when critical flow through the venturi is obtained. Converse, III *et al.* does not state that the flow channel can hold a mass flow sensor.

Wildgen *et al.* teaches that it is known to vary the mass flow through a flow tube in order to calibrate a mass flow sensor. Varying the mass flow is done using a throttle (reference item 6).

Hirai *et al.* teaches that a single mass flow sensor can be coupled to the flow channel upstream of a venture nozzle for calibration of the sensor. See, for example, mass flow sensor (reference item MFM1) located upstream of a sonic nozzle (reference item SNC1).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Converse, III *et al.* with the teachings of Wildgen *et al.* and Hirai *et al.* in order to couple a mass flow sensor to the flow channel of Converse, III *et al.* in order to calibrate the mass flow sensor without the need for a reference mass flow sensor.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DAVID A. ROGERS whose telephone

number is (571)272-2205. The examiner can normally be reached on Monday - Friday (0730 - 1600). If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E. Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

4. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David Rogers/
Examiner - Group Art Unit 2856